From: Michael Rozengurt [mailto:rozengurt@earthlink.net]
Sent: Monday, August 02, 2010 11:49 PM
To: Grindstaff, Joe@DeltaCouncil
Subject: : about multi-billion dollars water coveyance planning construction

----- Original Message -----
From: Michael Rozengurt
To: apignataro@calwatchdog.com
Sent: Saturday, July 31, 2010 4:31 AM
Subject: about multi-billion dollars water coveyance planning construction

Michael Rozengurt Ph.d., P.H. wrote to**:**
Arnold Schwarzenegger
Honorable Governor State of California

On June 20, 1980, Irwin Haydock (Ph.D. biology) and I (Michael Rozengurt, Ph.D., P .H. in the fields of oceanography and hydrology) sent a letter to California's then ***Governor Jerry Brown*** ,and subsequently spread it among numerous others officials as well as scientists of different entities of State of California (see, e.gttp*://deltavision.ca.gov/docs/9_Comment_from_Irwin_Haydock_11-30-07.pdf*)
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This two pages letter was based on almost 50 years combined experience and backed by many publications of Dr. Rozengurt as a principal investigator in the former U.S.S.R., concerning the effect of man's activities on environment of River – Delta –Estuary – Coastal sea ecosystems (over 80 publications, including several monographs – some available in the Library of Congress).

Note that a part of the above references were translated in 1981 by California's Dept. Water Resources and some fundamental conclusions were republished in English in *"Water , Water Everywhere But Just so Much to Drink"* in ***"Oceans" Magazine, September 1981*** (an Editor and Publisher of this journal at that time was a grandson of President Roosevelt).

Note that in the above-mentioned letter, the following warnings were given to result if, with the help of a Peripheral Canal, there were increasing water withdrawals from Delta for transport to the South, which was the subject of discussion in the press of 1980 almost every day.

In short, at that time we wrote to Governor:

1. That accumulative reduction of runoff, especially in spring, of 25-30% or more percent of **Normal,** i.e. (the average over 55-60 years in concert with international method of hydrological statistic ***,UNESCO***), will lead to negative, in term of quality, transformation in regime characteristics of ***Delta - S.F. Bay ecosystem***
2. Note that this process corresponds to Universal Laws of Thermodynamics and their derivative characteristic as **Entropy**. The latter is a sign of gradual, prospective demise of **Delta – San Francisco Bay** ecosystem, provoke by intensive, i.e. more then the natural limit in water withdrawals — ***approximately 25-30%!***
3. Further depletion spring and annual runoff will exacerbates degradation of physical and chemical features of habitat of ***Lower River – Delta – San Francisco Bay*** ecosystem within a ***decade;***
4. Note that accompanying cumulative losses of sediment load, and gradual increases in salt intrusion and, therefore, led to salinization of deltaic water that will intensify ***light penetration, eutrophication, decrease dissolved oxygen,*** and dangerously chip away at levee foundations.
5. Note that all of these and other factors will result in ***marked depletion of biological productivity and massive collapse of landings fish and shellfish.***

In practice, numerous large rivers have demonstrated that if ***water diversion exceed statistically validated limit than runoff deprivation gradually trigger the following mortal for river - delta ecosystem inter connection features, namely:***

no water, no habitat, no fish or other resources.

Unfortunately, some in the environmentally naive political establishment of the past fully ignored this letter as well as the results cited in local and international publications (publications of 1920-1980, and later, and two book-length reports from CSUSF's Tiburon Center for Environmental Studies, being presented at State and numerous other Hearing of 1987,1988). Note that hydrological parts of reports and prognosis on River's wet or dry conditions were highly regarded in Review and presentation of Academian Luna Leopold, Professor Berkeley University.

Despite the facts that I emphasized that a *"Peripheral Canal" was built in the Volga Delta* in 1974 (for the same purpose as discussed in California's case), with a $4 billion dollar price tag (***M. Rozengurt and J Hedgpeth, 1989, Revs.Aquatic Science, 1 (2: 337-362).*** Its operation in *the Volga Delta* has resulted in a ***mortal blow for both habitat and fishery resources of the Delta-North Caspian ecosystem***.

Note that the late Mr.***Randall L. Brown, DWR biologist*** from DWR's Kennedy administration, was sent to Russia in 1991 to meet some ***Delta Volga Administration to check my statements and writing about happen to be enviromental disaster - Volga Divider, or Peripheral Canal.***

According his later personal sharing of facts, he found that my published statement about the Volga unfortunate adventure of billion rubles price tag corresponded to reality.

In addition, Mr. Brown showed Rozengurt (me) at the end of that summer his devastating report to Director Kennedy of DWR about environmental and economical role of Volga Delta Peripheral Canal in the entirely negative transformation of Volga Delta regime characteristics, and migration , spawning, and fishery.

Nowadays, I again urge you and State Administration to facilitate a more rational water policy based on statistically validated results of scientific investigation of runoff and fishery over 40 - 60 years (two book-length reports from CSUSF's Tiburon Center for Environmental Studies, 1987,1988):

1. *California possesses only **28.5 MAF** on average of unimpaired runoff over a perennial period (**55- 60 years**, in concert with **UNESCO** regulation) in the Sacramento - San Joaquin watershed. This amount determines entirely the survival of the Delta - San Francisco Bay and the State's precious coastal resources;*

2. *the **Sacramento - San Joaquin** rivers' spring runoff, the lifeblood of this river system, has already been reduced to **10 to 30%** of what once was around **11 MAF,** on average (**spring unimpaired runoff** as computed over 55 to 60 years)*

3. *Since 1955 the excessive water withdrawals have deprived the Bay over **600 MAF** (million - acre- feet, or **720 cubic kilometers**) of freshwater runoff or **100** and **500 times** of the volumes of the Bay and Delta, respectively.*

*In addition, at the same time, **millions of tons of organic and inorganic matter, suspended sediment, oxygen**, and other components of Delta regime characteristics have been left behind the dams and in water conveyance facilities, and, therefore, have not reached Bay-Delta water body.*

*But historically, the any Delta is the heart (fig.) of river - estuarine ecosystem and the most suitable home for nursery and breeding ground for many commercially important species. In process of deltaic tributaries evolution , they have passed **millions acre-feet water, saturated with organic and inorganic load** from river*

watershed, and produced, circulated and reprocessed nutrient increment (about ***70%)*** *within their freshwater body. This have maintained the unique richness of delta at whole. Furthermore, the Delta outflow acts as a buffer zone* ***to repel saltwater intrusion, and provide flushings the natural and human introduced pollutants****. However, when* ***subnormal, regulated wetness starts prevailing, due excessive water diversion - myriads of negative features have been developed nearly simultaneously in Delta. Among them, the salinization of Delta water body****. Undoubtedly,* ***salt intrusion into Delta when runoff has been reduced, is most insidious, the inverse of the runoff process.***

That is why, any statement about "Restoration" of the Delta with the help of Peripheral Canal or other constructions under manifested of seasonal and annual runoff deprivation was, is, and will be environmental and economical dangerous fallacy! *For "****No One Can Get Something from Nothing,*** *i.e.* ***no runoff - no habitat- no living resources."***

*Unfortunately****,*** *the past and current incessant water development has negated these universal facts, and, therefore, made the system impounded. As a result, almost despoliation of the Delta has occurred.*

Therefore, the dissection of rivers by numerous dams and other water diversion systems has broke river continuum. ***As a result, the river runoffs have nothing in common with history of it evoltion.***

That is why, all belies of the statements that have claimed that it is possible to restore historical habitats of impounded River - Delta - San Francisco Bay ecosystem have to be considersd as reduction ad absurdum*.*

Recomendation :

I dare to state that only a nuclear powered desalination plant (like operated in city of ***Shevchenco, Mangyshlak Penincula, Caspian sea, or other areas****) built in the Bay area can safe the Delta from fresh water starvation and agonizing demise, for it can produce hundreds of thousand cubic meters(or millions of acro-feet) fresh water, that can be used to recharge water conveyance system as drought conditions may occur and concern over water availability increases. Note that today are over* **7,500 desalination** *plants in operation worldwide.*

Cordially,

M.Rozengurt, Ph.D., P.H.
(1045 N.Kings Rd.,#207,W.Hollywood,Ca.90069)

(Stamp: American Institute of Hydrology)